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01P15526USPATENT APPLICATION
09/990,844

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REMARKS

This Application has been carefully reviewed in light of the Office Action mailed July 7, 2006. At the time of the Office Action, Claims 1-14 and 16-21 were pending in this Application. Claim 15 was previously canceled without prejudice. Claims 1-4 are allowed. Claims 5-7, 11-14, and 16-21 stand rejected. Claims 8-10 were objected to. Applicants amended Claims 13 and 19. Applicants respectfully request reconsideration and favorable action in this case.

Rejections under 35 U.S.C. § 101

The Examiner stated that Claims 1-21 are rejected under U.S.C. 101 because the claimed invention is allegedly not directed to statutory matter. Applicants respectfully disagree.

The Examiner merely recited the MPEP but did not apply the regulation to the present claims. Thus, it is completely unclear why the present claims are allegedly directed to non-statutory subject matter.

The present independent claims are directed to the generation of a reduced trellis. A trellis consists of symbol states representing the value of a symbol in a series of symbols at different time slots. For each time slot a trellis shows all possible transitions to the next time slot. These transitions are represented by weight values.

The Claims include the limitation of generating such a trellis by calculating path metrics. Thus, generating a path metric results in a tangible result because a trellis is calculated using symbols and must be stored in some form, for example, in a memory as otherwise nothing would be generated.

In data communication, a symbol represents an actual digital representation of, for example, a digitized voice signal. The term "symbol" is explicitly defined in the present application. See, specification, page 1-2. All claims include the limitation of processing the symbols in a trellis. The present application is directed to the determination of symbols that have been received, for example, in a wireless communication. Thus, digital data is processed in a trellis calculation. This digital data processed in a Viterbi Equalizer is, for example, used in

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every mobile communication device. Therefore, the present claims are clearly directed to produce a tangible result in form of a trellis as defined in paragraph (2) on page 3 of the above mentioned office action..

Hence, Applicants respectfully request reconsideration of this rejection with respect to Claims 1-21.

Rejections under 35 U.S.C. § 102

Claims 5 and 11 were rejected by the Examiner under 35 U.S.C. §102(a) as being anticipated by U.S. Patent 5,623,511 issued to Bar-David et al. ("*Bar-David*"). Applicants respectfully traverse and submit the cited art does not teach all of the elements of the claimed embodiment of the invention.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1997). Furthermore, "the identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co. Ltd.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicant respectfully submits that the cited art as anticipatory by the Examiner cannot anticipate the rejected Claims, because the cited art does not show all the elements of the present Claims.

The Examiner maintained his rejection and argued that *Bar-David* discloses in Fig. 14 that a mode sifter evaluates each retained state for a particular symbol and selects the state from the previous symbol having the greatest path weight. The Examiner further stated that the mode sifter determines the predefined window period for the symbol length and makes a determination about the previous symbol after symbol (K+1) has been processed. The Examiner concludes from this that all the limitations of independent claim 5 and 11 are met by *Bar-David*. Applicant respectfully disagrees.

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Applicant agrees that *Bar-David* determines the most likely path through the trellis. See *Bar-David*, col. 23, lines 61-65. However, to determine this most likely path, the complete trellis has to be calculated. Thus, a plurality of possible states must have been calculated because otherwise there would be no point in a selection. Fig. 14 actually shows this in form of a fully calculated trellis in which all the transitions have been calculated. See, *Bar-David*, Fig. 14. *Bar-David* then merely teaches to go backwards within the trellis and determine the origin of the symbol series, in other words, symbols (k) and (k-1). At no time, *Bar-David* either mentions or suggests to calculate a reduced trellis.

Claim 5 includes the limitations:

determining the value of a previous symbol from the sequence of symbols; and

The above discussed principle of going backwards within a trellis could therefore be read on the first limitation. However, and most importantly, *Bar-David* does not teach the second limitation. This limitation states:

generating said reduced trellis by calculating only path metrics for states in which the previous symbol has the determined value.

Bar-David merely discloses to determine the most likely path through a trellis starting from the latest symbol (k+1) going backwards through symbol (k) to symbol (k-1) and, thus, determines the complete path. However, to do this the whole trellis must be populated as shown in Fig. 14. At no time, any reduction in trellis calculations takes place.

Claim 1 requires to generate a reduced trellis by calculating only path metrics for states in which the previous symbol has the determined value. *Bar-David*, particularly states that the mode sifter evaluates the weighted values for each symbol estimate. See, *Bar-David*, col. 24, lines 4-7. Thus, *Bar-David* clearly states the whole trellis must be populated to provide each symbol estimate. *Bar-David* at no time suggests or discloses to reduce the number of calculation and thus only generate a trellis with reduced paths wherein those paths start from states in which the previous symbol assumed the previously determined state. on the contrary, *Bar-David* particularly shows the trellis in Fig. 14 which is used to determine a particular path. See, *Bar-David*, Fig. 14 and col. 32-48. This trellis shows all transitions that must have been calculated at

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some point to enable the sifter to select the path with the greatest weight. *See, Bar-David* col. 23, lines 32-48 and Fig. 14.

Hence independent Claim 5 is not anticipated by Bar-David. Applicants respectfully submit that the dependent Claims are allowable at least to the extent of the independent Claim 5 to which they refer, respectively. Thus, Applicants respectfully request reconsideration and allowance of the dependent Claims. Applicants reserve the right to make further arguments regarding the Examiner's rejections under 35 U.S.C. §103(a), if necessary, and do not concede that the Examiner's proposed combinations are proper.

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CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of the claims as amended.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 19-2179.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Anand Sethuraman at the number below.

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Respectfully submitted,



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